Supreme Court, U.S.
FILED

03 1 1 7 0 FEB 10 2004

No.

In The

Supreme Court of the United States

DONALD SHAFFER,

Petitioner,

V.

AMADA AMERICA
INCORPORATED,

Respondent..

On Petition for a Writ of Certiorari to the United States Court of Appeals for the Eighth Circuit

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PETITION FOR A WRIT OF CERTIORARI

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QUESTIONS PRESENTED FOR REVIEW

Whether in a product liability case a .Ph.D. mechanical engineer with over twenty years experience as a professor and researcher in the fields of machine design and safety, who has programmed press brakes to operate by computer numerical control must have actually designed a safety device(s) commonly used in the industry, which is recognized and required by OSHA regulations and American National Standards Institute Standards; and marketed by nearly every manufacturer of power press brakes, in order to be considered qualified to render an opinion as to the feasibility of installing such a devise(s) on the power operated press brake at issue.

Whether recognition by the American National Standards Institute, and The Occupational Health and Safety Administration, production and sale by virtually every manufacturer of power press brakes, testimony by defendant's employees of common usage of a safety device on press brakes sold by the defendant, and identification by the defendant's retained expert of safety devices recommended by the plaintiff's expert as methods of guarding that could be used on the press brake at issue, in a product liability /design defect case constitutes "general acceptance " pursuant to this Court's rulings in *Dauber v. Merrell Dow Pharmaceuticals, Inc,. 509 U.S. 579, 113 S. Ct.. 2786, (1993) and Kuhmo Tire Ltd. v. Carmichael 526 U.S. 137, 119 S. Ct. 1167 (1999)*

Whether in the absence of expert design testimony the testimony of plaintiff's safety expert, Miranda Savage, Ph.D., stating that due to the fact that the maintenance operation plaintiff was performing at the time of his injury had to be performed while the press brake was energized, in violation of Occupational Safety and Health Administration (OSHA) Standard 1910.147 (a) 147.10, caused an unreasonably dangerous condition to exist with regard to a normal maintenance procedure, coupled with evidence of OSHA regulations and American National Standards Institute (ANSI) standards, which recognize and require forms of machine guarding as identified by plaintiff's expert design witness,, along with the testimony of defendant's employees and retained expert design witness raise sufficient factual questions to allow a jury to find that the machine in question was unreasonably dangerous to preclude the entry of summary judgment for defendant .

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CITATIONS OF OPINIONS AND ORDERS

ENTERED

United States District Court for the Eastern District of

Missouri No. 4:02CV1767CDP

United States Court of Appeals for the Eighth Circuit

No.. 03-1388 UNPUBLISHED

JURISDICTIONAL STATEMENT

(a) This Court's jurisdiction is invoked pursuant to United States Supreme Court Rule 10 (a) United States Court of Appeals has entered a decision which conflicts with the decisions of more than one other United States Court of Appeals on the same important matter.

A United States Court of Appeals has sanctioned a decision by a lower court which so far departed from the accepted and usual course of judicial proceedings as to call for an exercise of this Court's supervisory power.

(b) The decision of the United States Court of Appeals for the Eighth Circuit was entered September 18, 2003.

(c) A timely Petition for Rehearing with Petition for Rehearing en banc was filed on October 02, 2003

(d) the Petition for Rehearing with Petition for Rehearing En Banc was denied on November 12, 2003

(e) An Answer to the Petition for Rehearing with Rehearing en banc was requested on October 14, 2003

(f) The District Court had jurisdiction pursuant to 28 United States Code 1332 (1) .

Plaintiff, Donald Shaffer was a citizen of the State of Illinois, at time of filing.

Defendant is a corporation organized under the laws of the State of Washington.

STATUTORY PROVISIONS INVOLVED

Federal Rule of Civil Procedure 702

If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact at issue, a witness qualified as an expert by knowledge, skill , training, or education, may testify thereto in the form of an opinion or otherwise.

Federal Rule of Civil Procedure 402

All relevant evidence is admissible, except as

otherwise provided by the Constitution of the United States, by Act of Congress, by these rules, or by other rules prescribed by the Supreme Court pursuant to

statutory authority. Evidence which is not relevant is not admissible.

OSHA standard 29 CFR Subpart "O"

1910.212 (a) (1)

" *Types of guarding. One or more methods of machine guarding shall be provided to protect the operator* ***and other employees*** *in the machine area from hazards such as those created by point of operation, ingoing nip points, rotating parts, flying chips, and sparks. Examples of guarding methods are barrier guards, two hand tripping devices, electronic devices etc.*

OSHA Standard 29 CFR 1910.212 (a) (3) (ii)

"The point of operation of machines whose operation exposes an employee to injury shall be guarded. The guarding devise shall be in conformity with any appropriate standards thereof, or, in the absence of applicable specific standards, shall be so designed and constructed as to prevent the operator from having any part of his body in the danger zone during the operating cycle."

OSHA standard 29 CFR 1910.147 (a) (iii)

Purpose :

This section requires employers

to establish a program and utilize procedures for affixing appropriate lockout devices or tagout devices to energy isolating devices, and to otherwise disable machines or equipment to prevent unexpected energization, start up or release of stored energy in order to prevent injury to employees.

OSHA Standard 1910.147 App. A

Typical minimum lockout procedures:

(4) De-activate the energy isolating device(s) so that the machine or equipment is isolated from the energy source(s).

STATEMENT OF THE CASE

This cause arises out on an industrial related injury that occurred on March 01, 2000 at the Newco manufacturing facility in St. Charles Missouri. The plaintiff, Donald Shaffer, suffered a crush injury to his right hand, resulting in multiple digit amputations. Mr. Shaffer's hand was caught between the lower beam and the die on an Amada 5020 LD up acting press brake. The point where the lower beam and die meet is the "point of operation," the point at which metal is bent. Newco uses the press brake at issue to bend sheet metal for fabrication of automatic coffee makers.

At the time of his injury Mr. Shaffer was employed as a Service Engineer by Amada Engineering and Service Company. Mr. Shaffer was attempting to correct a problem with the lower beam at the time of injury. The lower beam, which rises to bend the metal between the beam and the die, was supposed to be adjusted so that it could only open far enough to allow a piece of sheet metal to be inserted between the beam and the die. The beam was opening approximately 4 inches at the time of the injury. The press brake was closed for use by Newco employees as it was considered unreasonably dangerous to operate the machine in the condition.

Mr. Shaffer brought an action based on strict product liability in the United States District Court for the Eastern District of Missouri against Amada America, Inc., importer and seller of the press brake in question.

Mr. Shaffer alleged that the press brake in question was unreasonably dangerous due to design and manufacturing defects, including, but not limited to:

(1) lack of machine guarding, specifically either a mechanical guard to prevent the operator's hand from entering the space between the up acting beam and the press dies, or a light curtain that would deactivate the machine in the event that the operator's hand entered the space between the beam and the die; known as the "point of operation.," or the "die space" the place where the metal is actually bent. (2) Mr. Shaffer also alleged that the design of the machine posed an unreasonable risk that a person attempting to adjust the bottom position of the lower beam; as he was doing, would lose his or her balance while standing on one foot and operating the treadle bar which activates the lower beam with the other foot; while standing directly in front of the machine; causing the person to either fall into the machine or grab the edge of the machine to regain balance. As the machine was not equipped with any type of guard, Mr. Shaffer alleged an unreasonable risk that the worker's hand would enter the die space and be crushed. Mr. Shaffer tendered Professor Amirouche, Ph.D. as an expert design witness.

Professor Amirouche testified, inter alia, that the press brake should have been equipped with mechanical guards which would have prevented the operator's hand from entering the "'point of operation" or sensory electronic devices (commonly used in the industry, called "light curtains," and in fact sold by the defendant as safety devices for the press brakes sold by defendant) which would have instantly

stopped the machine in the event that the operator's hand entered the point of operation.

The District Court, without holding a Daubert hearing, granted Defendant's Motion in Limine to Exclude the Testimony and Opinions of Dr. Farid Amirouche. The District Court based its decision in part on the fact that Professor Amirouche had not designed a press brake, nor had he worked for a company that manufactured press brakes. Professor Amirouche had not personally designed the guards he recommended. He testified that such forms of guarding are commonplace. He is an expert in the field of electronic sensors, and in his experience such devices can be readily adapted to all types of machinery. He further testified that while he had not designed a mechanical guard for the machine at issue, he could do so if requested.

The District Court held that the expert testimony of plaintiff's tendered safety expert, Professor Maranda Savage, Ph. D., without Professor Amirouche's testimony, was not sufficient to establish a question of material fact. Dr. Savage testified that the necessity to service the machine while it was energized caused an unreasonably dangerous condition , and was in violation of Occupational Health and Safety Administration (OSHA) Standard 29 CFR 1910.147 which requires the machine to be isolated from the energy source and rendered inoperative while service is performed. The District Court did not comment on the testimony of Amada's retained expert who identified the forms of guarding recommended by Professor Amirouche as types of guarding which could be used on the press brake at issue. The District

Court did not comment on the testimony of Amada employees who stated that they had installed numerous light curtains on Amada press brakes and saw no reason why such devices would not work on the machine in question.

The District Court Granted Defendant's Motion for Summary Judgment. Plaintiff filed a timely Notice of Appeal.

REASONS TO ALLOW THE WRIT

THE UNITED STATES COURT OF APPEALS HAS SANCTIONED A DECISION OF THE DISTRICT COURT WHICH SO FAR STRAYS FROM THE STANDARDS SET FORTH FOR BY THIS COURT FOR ADMISSION OF EXPERT TESTIMONY UNDER FEDERAL RULE OF EVIDENCE 702 AS TO CALL FOR THIS COURT TO EXERCISE ITS SUPERVISORY AUTHORITY

> The inquiry envisioned by Rule 702 is we emphasize, a flexible one. Its overreaching subject is the scientific validity and thus the evidentiary relevance and reliability --of the principles that underlie a proposed submission. The focus, of course, must be solely on the principles and methodology , **not on the conclusions that they generate.** (emphasis added) *Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579, .*

594, 125 L. Ed. 2d 469, 484, 113 S. Court 2786, 2797, (1993)

See also Kuhmo Tire Ltd. v. Carmichael 526 U.S. 137, 119 S. Ct. 1167, (1999)

Daubert factors to be considered in making a determination as to whether to accept or reject expert testimony are neither definitive or exhaustive, but rather flexible to account for the various types of potentially appropriate expert testimony.

Professor Amirouche' s educational and practical experience qualify as " specialized knowledge " gained through experience, education, or training under Federal Rule of Evidence 702, and his testimony was improperly excluded; his alleged shortcomings went to the issue of weight rather than admissibility *McCullock v. H.B. Fuller Company 61 F. 3d 1038 (2d Cir. 1995) Daubert V. Dow Merrrell Pharmaceuticals Inc., 509 U.S. 579, 113 S. Ct. 2786, 2789, 125 L. Ed. 2d 469(1993).*

In the case at bar the District Court, while paying lip service to *Daubert,* focused on the expert's conclusion.

The Court stated that Dr. Amirouche

> "has no knowledge as to whether any of his proposals would work or would interfere with the normal operation of the press brake."

> " It is not the trial court's role to decide whether an expert's opinion is correct.

> The trial judge is limited to determining whether the expert testimony is pertinent to an issue in the case and whether the methodology underlying that testimony is sound." *Deputy v. Lehman Brothers, Inc. 345 F. 3d 494, 506 (7th Cir. 2003)*

A DISTRICT COURT ABUSES ITS DISCRETION IF ITS CONCLUSION IS GUIDED BY ERRONEOUS LEGAL PRINCIPLES

Koon v. United States, 518 U. S 81, 100, 135 L. Ed 2d 392, 116 S. Ct. 2035 (1996)

OR RESTS UPON A CLEARLY ERRONEOUS FACTUAL FINDING

United State v. Barber 119 F. 3d 276, 283, (4th Cir. en banc) cert. denied 522 U.S. 988, 139 L. Ed. 391, 118 S. Ct. 457 (1997)

As will be set forth later in this Petition, the record indicates that the District Court based the above conclusion on erroneous findings of fact.

The District Court erroneously labeled Professor Amirouche's opinions as "abstract theory," his research as "almost exclusively documents he gathered from the Internet solely for the purpose of this litigation." The District Court states that the only literature he consulted with regard to the press brake at issue is the Amada manuals. One might ask what other literature would be relevant.to the particular model at issue.

FURTHER, EVEN IF THE DISTRICT COURT APPLIES THE CORRECT LEGAL PRINCIPLES TO ADEQUATELY SUPPORTED FACTS, THE DISCRETION OF THE TRIAL COURT IS NOT BOUNDLESS AND SUBJECT TO AUTOMATIC AFFIRMANCE

Westberry v. Gislaved Gummi AB, and Mataki Kemi AB 178 F. 3d 257, 261, (4th Ccir. 1999)

> "As the Supreme Court reminds us, it is the hallmark of our review, absent abdicating our duty , to analyze the trial court's ruling in the light of the principles of *Daubert* and the Federal Rules of Evidence." *Lauzon v. Senco Products Inc. 270 F. 3d 681, 685, 686 (8th Cir. 2001)*

Counsel respectfully submits that the United States Court of Appeals for the Eighth Circuit abdicated its duty and simply rubber stamped the Trial Court's erroneous decision in the instant case..

The case law relied upon by the District Court is in every respect inapposite to the facts of the case at bar.

In *Jarequei v. Carter Manufacturing Co. Inc., 173, F. 3d 1076 (8th Cir. 1999).* The proffered expert attempted to testify that the corn head on a combine was defective because it lacked "awareness barriers " that warned of the hazard zone where the gathering chains of the combine emerged from the snout of the machine. The "expert" claimed the gathering chains were invisible ... "because of the speed at which the gathering chains suddenly emerge from under the snout ....." **Willis admitted, however, that he had never observed the corn head at issue when it was**

running, and that he had never seen the any corn head in operation excrpt from the roadside during his various trips through the Illinois countryside. "He stated " I guess as engineer I know what it looks like in the running mode." He knew of no manufacturer of corn heads which had ever put an awareness barrier in front of the gathering chains. (emphasis added) *Jarequi* 173 F. 3d 1076, 1080. Nor did he point to any manufacturer which incorporates awareness barriers into any similar farming machinery. *Jarequi 173 F. 3d 1076, 1084* There was no evidence to suggest general acceptance of his theory.

In *Dancy V. Hyster Company 127 F. 3d 649, (8th cir. 1997)* the proposed expert was a mechanical engineer with a specialty in the field of thermal science. He had never seen a guard such as he proposed on a fork truck or any similar kind of equipment. He simply "envisioned such a guard." He stated that: I will probably do some thinking about design after today." There was no evidence of general acceptance of his ideas.

n *Sandage V. Bankhead Enterprises 177 F. 3d 670, (8th Cir. 1999)* the Court held that the modifications to the trailer were open and obvious. ... Any ordinary and reasonable person could easily see that the car door was blocked and there was not enough room to exit safely.

Linegar V. Armour of America 909 F. 2d 1150 (8th Cir. 1990) involved a bullet resistant vest. A Missouri state trooper was killed when several bullets entered his body at an unprotected area. The Court

ruled that no defect in the vest caused Linegar's injuries. (909 F. 2d at 1154.)

In contrast, Missouri law recognizes that a failure to provide a safety device on a machine can render the machine unreasonably dangerous.

THE DECISION OF THE UNITED STATES COURT OF APPEALS CONFLICTS WITH SEVERAL PUBLISHED DECISIONS OF OTHER CIRCUITS INVOLVING AN IMPORTANT FEDERAL QUESTION

An expert is not required to have direct design experience with the product at issue *Stagl v. Delta Airlines 117 F. 3d 76 (2d Cir. 1997) DaSilva etc. et al V. American Brands, Inc. 854 F. 2d 356 (1st Cir. 1988)*

An expert is not required to perform tests in any given situation *Clark v. Chrysler Corporation 31 F. 3d 461, 466, (6th Cir. 2002)*

> "Where an expert testifies based upon an application of established engineering techniques failure to submit those techniques to publication establishes nothing about their reliability. If an expert's testimony is based upon extensive practical experience rather than novel methodology subject to publication

failure to publish does not cast doubt on the reliability of his analytical technique."
Smith v. Ford Motor Company 215 F. 3d 713, (7th Cir. 2000)

"The failure to provide a necessary device or the failure to warn potential users about a product' s dangerous propensities can render a product unreasonably dangerous." *Romero v. Cincinnati Incorporated171 F.3d 1091, 1094 (7th Cir. 1999) citing Monreal V. Waterbury -Farrel Foundry & Machine Company, 269 Ill. App. 3d 841, 646 N.E. 2d. 1337, 207 Ill. Dec. 250 (1st. Dist. 1995).*

THE DECISION OF THE UNITED STATES COURT OF APPEALS FOR THE EIGHTH CIRCUIT CONFLICTS WITH SEVERAL PUBLISHED DECISIONS ENTERED BY THE EIGHTH CIRCUIT

Professor Amirouche stated, inter alia:

1. The treadle bar is dangerous and unreliable. It is haphazardly controlled and provides a dangerous mechanism for foot support.

2. If a foot electric/pneumatic switch had been in use Mr. Shaffer wouldn't have had his fingers crushed and would still have his hand today.

3. Furthermore, the press brake should have built-in safety guards of a mechanical/sensory nature that would prevent such accidents from occurring. This is especially true when repairs are being performed on the machine.

These are very common methodologies and procedures that could be adapted to a lot of machines and I have no reason to say why it shouldn't be --that it shouldn't work with that particular model.... (Amirouche dep. p. 235 Record Appendix p.11)

In *Clark V. Chrysler 310 F. 3d 461, 466 , (6th Cir. 2002)* The Court held : Daubert does not require an expert to actually come in and perform tests in every situation.

> "As a general rule the factual basis of an expert opinion goes to the credibility of the testimony, not the admissibility, and it is up to the opposing party to examine the factual basis for the opinion in cross examination
>
> *Only if the expert's opinion is so fundamentally unsupported that it can offer no assistance to the jury must such testimony be excluded. " Smith V. BMW North America Inc., BMW AG, and Roadshow Enterprises doing business as Roadshow BMW, Inc., 308 F. 3d 913, 921 (8th Cir. 2002.)*

His opinion was based in part on materials he reviewed prior to writing his Report and partly on "my knowledge of being able to adapt sensors to a number of mechanical systems, and that's what I do. " He relied on his experience of more than twenty years as a professor and researcher in the fields of design

and safety. For approximately 18 years he has taught classes "almost yearly" where students design components, "things that will be done by either a press brake machine or other machine that is manually or mechanically operated. And what I mean by that is essentially the students will be creating, if you wish, the design of the die and then doing the analysis on the required forces or required operation to actually achieve that. He is the author of two editions of a book entitled COMPUTER AIDED DESIGN AND MANUFACTURING, as well as other books on design and safety. He served on the steering committee for the National Institute of Health and Safety, (NIOSH) to address ergonomics factors and safety in relation to the interaction of operator and machine in 1999 . The committee studied all interaction between people and machines, There were presentations daily with flow charts and discussions of every single item, including press brakes.

A partial list of materials reviewed includes:

1. Shaffer's own statement of the accident;

2) OSHA Press Release Aims to Reduce Power Press Injuries;

3) Safety Lines essentials; brake presses ;

4) Amada operating manuals;

5) Medical Records ;

6) Hand photographs;

7) Pictures of the press brake taken by a professional photographer;

8) A video of the press brake taken at the scene of the accident.

9) Amada Engineering Electric pneumatic foot switch.

Professor Amirouche reviewed a large body of professional journals, books, conference proceedings, websites, government agencies, and international and national organizations with websites and data bases on injuries caused by press brakes at work. The data bases that he searched are those that would deal with any injuries resulting from fingers/hand being crushed by a brake press. Professor Amirouche witnessed the operation of the press brake at issue by a Newco employee. He inspected the press brake and took measurements. He studied the operator's manual and the parts list. He saw the reenactment of the plaintiff's injury. He has particular expertise, through independent research, with adapting electrical sensors to a variety of machines.

Robert Bellamy, Senior Service Engineer for Amada America, Inc., described a "programmable light curtain" as a safety device which is installed on a press brake.

> "You teach the curtain how many lights have to be out in each form up to --some curtains will allow you 13 forms some will allow 16 forms. And when you program a light curtain, you break so many lights as your sheet goes up being formed. And it has to happen that way every time on that particular station. And if it doesn't then the light curtain will stop, the beam will stop the machine

because it would be the same as putting your arm in break lights that weren't broke before and not supposed to be broke, it stops you at that point." (Bellamy deposition pp. 36, 37)

Q. Do you know any reason why-- if Newco decided to put a light curtain on that 5020 do you know of any reason why the light curtain would interfere with Newco's operations, the ones that you have observed?
A. From what I have seen I don't think so but I have not seen everything. (Bellamy deposition p 37) Bellamy testified that he had installed more than 20 light curtains on Amada press brakes from the year 1996 until the date of his deposition, in 2002. (Robert Bellamy Deposition p. 27)

In *DaSilva etc. et al, v. American Brands Inc., and USM Corporation , USM Corporation v. American Brands, Inc. (1st Cir. 1988)* a wrongful death action alleging negligence and breach of warranty, in which the plaintiff's decedent was killed while operating a Banbury mixer at an industrial plant, a mechanical engineer with no design experience with the mixer model in question was allowed to testify over defendant's objection. His only experience with the machine in question was briefly as a production line supervisor.

The Court stated "Appellant, in essence, is arguing that we should constrain a trial court to admit testimony only from

> mechanical engineers who have had design experience with the specific machine in question, such an approach would often mean that the only experts who could testify regarding a machine are those who have ann interest in defending its design. We are not persuaded to abandon the general rule that a court should consider all relevant qualifications when ruling on the admissibility of expert testimony.

The Court allowed the testimony based upon the witness's experience as an engineer. He was familiar with fundamental engineering principles, *DaSilva 845 F. 3d 356, 361. (emphasis added)*

In *Stagl V. Delta Airlines Inc. 117 F. 3d 76 (2d Cir. 1997),* the plaintiff alleged that the airline negligently failed to take any measures to control the crowd at the baggage carousel or to provide a means by which elderly and disabled people could retrieve their luggage safely. The Circuit Court held that the trial court abused its discretion by ruling that plaintiff's expert was not qualified to testify about the safety of the carousel area because he did not have experience in airline terminal or baggage claim area design. The Court further reversed an order granting defendant judgment as a matter of law. The plaintiff's expert, Fischer, had an undergraduate degree from Manhattan College and a Master of Science from Columbia University, both in mechanical engineering.

He had worked as a licensed engineer in New York for approximately twenty years. The Court found that the primary basis for the trial court's determination that his testimony would not be allowed concerned whether Fischer had expertise in airline terminal or baggage claim design. Fischer admitted that he did not but testified credibly that his field of expertise was in the interaction of machines and people. The interaction between the machine and passengers was at issue. The Court held that to allow only the testimony of experts who had experience in the design of airline baggage systems came dangerously close to allowing the airlines to set their own standards. *Stagl V. Delta Airlines Inc. 117 F. 3d 76, 82 (2d Cir. 1997*

In the instant case the interaction between operator and machine is an important issue.

Professor Amirouche is a highly qualified expert in the fields of machine design and safety. In formulating his opinions in this case he relied on his experience of more than twenty years as a professor and researcher in the area of machine design. His particular expertise in biomechanics, ergonomics , and the adaptation of electrical sensors to all types of machinery make him uniquely qualified to formulate an opinion as to the cause of Mr. Shaffer's injury; and the forms of guarding necessary to prevent such injury.

Professor Amirouche has programmed machines, including press brakes, to operate by computer numerical control, and has published books dealing with CNC. He personally designed a robotic system to remove nuclear waste at the Argonne National Laboratory.

"That an expert testifies based on research he has conducted independent of litigation provides important, objective proof that the research comports with the dictates of "good science." An expert's finding that flows from research independent of litigation is less likely to be biased and the expert is limited to "the degree to which he can tailor his testimony to serve a party's interests." (*Lauzon V. Senco Products Inc. 270 F. 3d 681, 692 (8th Cir. 2001 Internal citations omitted)*

Professor Amirouche applied recognized engineering principals to his analysis of the events leading to the injury; as well as the steps that could have been taken to prevent the injury.

The Court in *Smith v. Ford Motor Company 215 F. 3d 713, (7th Cir. 2000)* reversed an erroneous finding by the district court that two experts were not qualified. The district court failed to consider more than one factor in the reliability of the testimony. The Appellate Court held:

> " If Muszar was merely applying well-established engineering techniques to the particular materials at issue in this case then his failure to submit those techniques to peer review establishes nothing about their reliability. Similarly, if Cassassa's accident reconstruction methodology is based on his extensive practical experience in this area, rather than novel methodology subject to publication, his failure to publish does not cast doubt on the reliability of his analytical technique."

> *Bonner v. Crawford and Company 259 F. 3d 924, 928 (8th Cir. 2001)* held "even if the judge believes there are better grounds for some alternative conclusion and that there are some flaws in the scientist's methods, if there are good grounds for the expert's conclusion, it should be admitted." Neither *Rule 702 or Daubert* requires that an expert opinion resolve an ultimate issue of fact to a scientific absolute in order to be admissible."

Professor Amirouche carefully utilized a "differential diagnosis" method to rule out all alternative possibilities of the cause of injury. His opinions on machine guarding enjoy universal acceptance by OSHA , the American National Standards Institute. (ANSI); the press brake industry; and the United States Court of Appeals for the Eight Circuit. *Murphy V. L & J Press Company 558 F. 2d 407, 410, 411, (8th Cir. 1977)* .

> "It is well settled law in Missouri that failure to provide a safety factor in a machine's design, (here a point of operation guard or some other protective device) can constitute a "defective condition" ..... It is clear that Murphy's use of the 1948 and 1960 ANSI and OSHA codes was to illustrate the fact of the availability of point of operation guards at the time the press was manufactured in 1960. .....the use of these standards for this limited purpose is clearly admissible under

> Rule 402 of the Federal Rules of Evidence, as it relates directly to the feasibility question, i.e. could L&J have feasibly included some form of protective device on the press. *Murphy V. L& J Press Corporation,* 558 F. 2d 407, 410, 411, (1977)

Murphy reversed a jury verdict for the defendant, and remanded for new trial on the grounds that OSHA and ANSI standards had been used to argue the question of who had the duty to guard, rather than the question of the unreasonably dangerous condition of the machine. .The Court rejected defendant's argument that the standards reflected a consensus of opinion supporting their "design alternative" of leaving the guarding to the user or purchaser. The Court found such argument had the

> " most tenuous, if any relevance to the question of feasibility, and even if arguably relevant, introduction of these materials was far more prejudicial than probative, and the materials should have been excluded on that grounds." M*urphy* at 558 F. 2d 411.

U.S. Department of Labor Occupational Safety and Health Administration Press Release: **OSHA Aims to Reduce Power Press Injuries [03/05/1997]** (Plaintiff's Exhibit Appendix pp. 18, 19)) One of the documents reviewed by Professor Amirouche states:.

> " It is unconscionable for workers to be losing their fingers and suffering other disabling injuries simply because mechanical power presses are not properly guarded or maintained," said Greg Watchman, acting

assistant secretary of labor for occupational safety and health. "operating a mechanical power press can be extremely dangerous. Yet injuries are preventable when employers ensure that guards, which have long been required and are readily available are installed and maintained on presses to protect workers against the punching action of metal stamping equipment." (Amirouche Report Exhibit Appendix pp. 1-5)

OSHA standard 29 CFR Subpart "O" 1910.212 (a) (1) states:
Types of guarding: One or more method of machine guarding shall be provided to protect the operator ***and other employees*** *in the machine area from hazards such as those created by point of operation, ingoing nip points, rotating parts, flying chips, and sparks. Examples of guarding methods are barrier guards, two hand tripping devices, electronic devices etc.*

OSHA Standard 1910.212 (a) (3) (ii) provides: "*The point of operation of machines whose operation exposes an employee to injury shall be guarded. The guarding devise shall be in conformity with any appropriate standards thereof, or, in the absence of applicable specific standards, shall be so designed and constructed as to prevent the operator from having any part of his body in the danger zone during the operating cycle." (Record* Exhibit Appendix 20-22)

The American National Standards Institute Standard B 11.3 1982 states the employer shall provide safeguarding at the point of operation by (a) A point of operation guard or a point of operation device. (Appendix of Record p. 81)

The defendant offers programmable light curtains for sale, stating :"now safety does not have to come at the expense of productivity. " (Record Exhibit Appendix p. 47) Additionally the defense expert, Peter Schwalje, admits that programmable light curtains are offered by several press brake manufacturers as optional equipment. (Schwalje deposition p. 97 Record Exhibit Appendix p. 157)

Peter J. Schwalje, defendant's proffered design expert; testified as follows

Q. Can you set forth for me what types of safeguards might have applicability to this machine?

A. It is --in some instances one could use a barrier guard that is fixed; one can use die guards that are fixed to the dies. You could use fixtures which introduce and remove the material without the operator having to hold the piece while the inserting is going on or the removal. You can use restraint devices which limit the forward motion of the operator's hands. You could use a pull back mechanism working off an overhead mechanism to force the operator's hands back from the point of operation. You could use forms of presence sensing devices such as photoelectric or--

well, we're getting away from RF radio frequency devises.

Q. A presence sensing device, is that something that is commonly called a light curtain?

A. That's a generic name, yes.

Q. How does it work?

A. It establishes an energy beam, which is in a spectrum normally away from visible light or incandescent light, and establishes in essence a field which projects across the front portion of the machine. The field will sense an interruption. It will send a signal to a control device and that will inhibit motion. (Schwalje deposition pp. 78, 79).

Mr. Schwaljge also testified that in the year 2000 Amada offered foot control devices as an alternative to treadle bars for activation of Amada press brakes. (Dep. p 93)

EVEN IF THE TESTIMONY OF PLAINTIFF'S DESIGN EXPERT, FARID AMIROUCHE WAS PROPERLY EXCLUDED PLAINTIFF COULD ESTABLISH SUFFICENT QUESTIONS OF MATERIAL FACT TO WITHSTAND A MOTION FOR SUMMARY JUDGMENT

Duke v. Gulf and Western Manufacturing 660 S.W.2d 404 , 416 (Mo. CA , S.D.) held that federal regulations (OSHA 1910.212 (c) (d) or Missouri

Statutes imposing a duty on the employer to safeguard machines did not excuse the manufacturer from the duty to safeguard.

See also *Murphy v. L&J Press Company 558 F. 2d 407, 411, (8th Cir. 1977)*

By the introduction of OSHA and ANSI standards as set forth above as well as the testimony of America, Inc., employees, Robert Bellamy and Themis Alexopoulos and. Peter Schwalje, Amada's expert; plaintiff easily establishes a question of fact as to the unreasonably dangerous condition of the machine, as well as the feasibility of guarding the machine in question. Plaintiff's safety expert, Miranda Savage, Ph. D.; testified that the necessity to service the machine while it was energized caused an unreasonably dangerous condition , and was in violation of Occupational Health and Safety Administration (OSHA) Standard 29 CFR 1910.147 which requires that a machine be isolated from the power source when repairs are performed.

While it is true, as the District Court stated, that Dr. Savage testified the machine meets applicable standards, this is a moot point. ANSI Standard B11.3 1982, the only applicable standard, requires that the **employer, not he manufacturer, provide safeguards.** The machine meets the applicable standards of the industry without guards. As pointed ort above, Missouri law does not excuse the manufacturer simply because the press brake met this standard. *Murphy at 411, Duke at* 415, 416, citing *Gordon v. Niagra Machine and Tool Works 574 F. 2d 1182 (5th Cir. 1978Rios v. Niagra Machine and /tool Works 59 Ill. 32d 79, 319 N.E. 2d 232 (1974).*

In *Padillas V. Stork -Gamco Inc. 186 F. 3d*

412, 416 (3rd Cir. 1999) The Court held that at the summary judgment stage, it is premature to rule out the possibility that expert testimony will be unnecessary to establish a question of fact to submit to the jury. Non expert testimony and pictures may allow the jury to understand the construction and use of the machine; if so expert testimony would not be required. The Court held that based on the record the Court could not exclude the possibility that plaintiff's non expert testimony establish a question of fact for the jury to resolve.

In Padillas, as in the instant case, the District Court stated , without explanation, that the case presented complex and technical questions of product design. It is evident that men and women of common understanding would be able to determine from the pictures and testimony function of the machine in question in the case at bar. Such men and women of common understanding could easily comprehend how a mechanical guard or light curtain would operate. While expert testimony would certainly aid the trier of fact to understand the operation of the machine in question as well as the operation and design of the safety devices, it is clear that any person of normal intelligence could understand that an unguarded press brake is unreasonably dangerous for normal use.

For the reasons and authorities cited above Petitioner respectfully requests the Supreme Court to grant review of this matter.

Respectfully Submitted

William J. Meacham

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UNITED STATES COURT OF APPEAL FOR THE EIGHTH CIRCUIT

No. 03-1388

Donald Shaffer,	*	
	*	
Appellant,	*	Appeal from the
V.	*	United States
	*	District Court for
Amada America, Inc.,	*	Eastern District
	*	of Missouri
Appellee.	*	[UNPUBLISHED]
	*	

Submitted : September 10, 2003

Before: WOLLMAN, FAGG and RILEY,

Circuit Judges:

PER CURIAM.

Donald Shaffer, a service engineer for Amada Engineering and Service, Inc., crushed his fingers while repairing a press brake machine, which bends

metal. Shaffer brought this diversity action against Amada America, Inc., (Amada) , the press brake's seller, alleging the press brake was defectively designed. to prove defective design, Shaffer proffered the testimony of Farid Amirouche, a doctor of mechanical engineering. The district court* granted Amada's motion in limine to exclude Dr. Amirouche's testimony under Federal Rule of Evidence 702 and Daubert v. Merrell Dow Pharm., Inc. 509 U.S. 579, (1993). Without expert testimony to prove the press brake was defective, the district court granted summary judgment to Amada. Shaffer appeals asserting the district court should not have excluded Dr. Amirouche's testimony.

We review the exclusion of expert testimony for abuse of discretion. Jaurequi v. Carter Mfg. Co. 173 F. 3d 1076, 1081 (8th Cir. 1999). Expert testimony is generally admissible when it is reliable and relevant. *Id:* Fed. R. Evid. 702. District courts have considerable latitude in deciding whether expert testimony meets this standard., and in doing so, may consider one or all *Daubert* factors. 509 U.S. at 593-94; see Jaurequi, 173 F. 3d at 1082. The polestar is the scientific validity of the principles underlying the expert's opinions. Jaqueri, 173 F. 3d at 1082.

* The Honorable Catherine D. Perry, United States District Judge for the Eastern District of Missouri

Dr. Amirouche would have testified the press brake's treadle bar is dangerous and unreliable, a foot electric/pneumatic switch should be used, and the press brake should have built in safety guards of a mechanical /sensory nature to prevent accidents from occurring. Dr. Amirouche based his opinions on his experience as professor and researcher in the area of mechanical engineering design and biomechanics for over twenty years. He relied on Shaffer's statement about the accident, an OSHA press release about reducing power press injuries, Safety Lines information on brake presses, Amada operating manuals, medical records, hand photographs, pictures of the press brake, video of the press brake, the Amada Engineering Elector pneumatic foot switch, and publications about injuries resulting from fingers being crushed by a press brake. The district court concluded Dr. Amirouche's testimony was unreliable, however, because the testimony was not based on sufficient facts and data. He had not designed or tested the devices he claimed would have prevented the accident, there was no peer review of his theories , and there was no evidence of the general acceptance of his abstract theory that certain devices would have prevented the accident. See Daubert 509 U.S. at 593-94.

The district court did not abuse its discretion in excluding Amirouche's testimony. The record shows Amirouche has no experience with press brake designs, he has been a full-time professor since 1984, and he has never designed a press brake, a press brake guard, or an electro-pneumatic foot switch for a press brake. Although Amirouche identified a

switch that could be used on a press brake, the switch could not be used on the press brake at issue and was not used on any press brake. Further, Amirouche has never tested press brakes or published any articles or research about press brakes. Indeed, Amirouche could not identify any code or standard applying to the design, manufacture, service, or operation of press brakes. Shaffer's industrial safety expert proffered testimony identifying the applicable design standard, but admitting that the press brake at issue met the standard's requirements. Given Dr. Amirouche's lack of design experience or expertise involving press brakes, the district court properly excluded Dr. Amirouche from testifying that the press brake was defectively designed. See Anderson v. Raymond Corp., No. 02-3393, 2003 WL 21919577, at * 2(8th Cir. Aug. 13, 2003) ; Oglesby v. General Motors corp. 190 F. 3d 244, 250-251, (4th Cir. 1999) ; Ancho v. Pentek Corp; 157 F. 3d 512, 518 (7th Cir. 1998)

Shaffer also contends that even if the district court did not abuse its discretion in excluding Dr. Amirouche's opinions, the district court committed error in granting summary judgment to Amada because Missouri law holds the failure to guard may be a design defect. Although a press without proper guarding may be unreasonably dangerous, Murphy v. L& J Press Corp. 558 F. 2d 407, 411 (8th Cir. 1977) Shaffer still had the burden to prove the design was unreasonably dangerous, Pree v. Brunswick Corp. 983 F. 2d 863, 865, (8th Cir. 1993) To do so, Shaffer must show there is a safer alternative design for the press brake that injured him. Dancy v. Hyster Co. 127 F. 3d 653-54 (8th Cir. 1997) Shaffer cannot make this showing without expert testimony. Id.

Halving properly excluded the testimony of Shaffer's only design expert, the district court properly granted summary judgment to Amada.

We thus affirm the district court.

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May 2, 2002

William J. Meacham
Law Office of William J. Meacham, P.C.
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Re: Donald Shaffer:

Dear Mr. Meacham,

Earlier this year you asked if I could provide an opinion on a case of a person who had caught his hand in a brake press and severely damaged his fingers. After our discussion, I advised you about my work and the necessary information I needed in order to formulate an opinion. Since then, you have provided me with documents, including medical records, and operating manuals, which included drawings of Amanda press. In addition to the documents described, I visited the Newco plant where I was able to examine the brake press machine and watch Mr. Schaffer reenact the events of the accident to the best of his recollection. After reviewing the documents presented to me along with the information collected at the scene I initiated my analysis and investigation of the accident.

It should be noted that, I reserve the right to reevaluate my opinion should additional information be available.

Mr. Shaffer is a 47-year-old male who had his right hand caught in a brake press machine while attempting to make a routine repair. The accident took place on March 01, 2000 where he was treated at St. Charles Hospital in St. Charles Missouri. At the hospital, they reattached the fingers and later he had to have an amputation performed on the fingers that did not survive. He had multiple digit injury.

It should be noted that Dr. Feliciano was his treating physician at the time of the accident. On March 31, 2000, he was taken to St. Joseph Hospital after an auxiliary block had been placed in the holding area. Dr. Donald Pruit performed an amputation of the long and ring finger. The amputation for the long was through the middle phalanx and the ring finger was through the proximal phalanx. In addition, Dr. Pruit revised the fixation index, long and little fingers. On August 29, 2001, Mr. Shaffer visited Dr. David Zehr at the Lankford Hand Surgery Association in Dallas, Texas. He was given a Cortisone injection in the carpal tunnel to relieve him from the pain and he was put on medication. Dr. Zehr recommended a tenolysis of the index to improve mobility and reconstruct the central slip of the little finger to improve his overall function.

To arrive at the opinion rendered in this case I relied on my experience as a Professor and Researcher in the area of Mechanical Engineering Design and Biomechanics for over 20 years. I am the author of a book in Computer Aided Design and Manufacturing and other books in the area of Design and Safety. I am listing below the additional documents and references used in my analysis.

1) Shaffer's own statement on the accident
2) OSHA press release Aims to Reduce Power Press Injuries
3) Safety lines essentials: brake presses
4) Amada operating manuals

5) Medical records
6) Hand photographs during the accident
7) Pictures of the brake press taken by a professional photographer
8) A video of the press brake taken at the seen of the accident
9) Amada Engineering – Electro-Pneumatic Foot Switch

I have reviewed a large body of professional journals, books, conference proceedings, websites, government agencies, libraries, and international and national organizations with websites and databases on injuries caused by press brakes at work. The databases that I searched during the course of my examination are those that would deal with any injuries resulting from fingers/hand being crushed by a brake press. What follows are the specific organizations, government agencies and literature that I searched in the course of this investigation:

Human Factors and Ergonomic Society

- The International Ergonomics Association
- Ergo Web
- Environmental Protection Agency
- NIH National Institute of Environmental Health Sciences
- The Center to Protect Workers Rights
- International Labour Organization

· Morbidity and Mortality Weekly Report · International Society of Exposure Analysis

· ASME American Society of Mechanical Engineers

· ISO International Organization of Standards

US Governmental Institutions

· CDC Agency for Toxic Substances and Disease Registry

· CDC National Center for Environmental Health

· Occupational Safety and Health Administration

· Bureau of Labor Statistics

· Department of Labor

· CDC National Institute for Occupational Safety and Health

· National Center for Health Statistics

· National Center for Injury Prevention

. Office of Safety and Health Administration

Description of the accident:

As per Mr. Shaffer's own description, as supported by the Newco personnel, he was working at the Newco plant on an RGLD press brake, which is one of Amada Engineering Company's newest brake machines. This press machine, according to the Newco documents, was under trial or a lease at the Newco plant at the time of the accident. It was later purchased by Newco Company and is currently operational at the plant site. Mr. Shaffer was called to the plant to repair an electrical switch, because Amada Engineering did not have this particular switch in stock at that particular time. According to Mr.

Shaffer, this switch caused the ram to slip down during a normal press brake operation. This problem had been worked on twice before. At the time of the accident, Mr. Mark Hubert foreman at the Newco Company was at the scene and looking over by Mr. Shaffer shoulders while the work was being performed. Mr. Shaffer hand on the lower ram and accidentally pushed the treadle bar with his foot, which caused the ram to come up, and consequently caught his hand between the punch and the die crushing his fingers.

To understand the mechanism of most brake press injuries resulting in fingers being amputated or badly crashed, I am providing some basic information that usually can be responsible for such an accident to happen.

- Machine is unguarded
- The guard used to protect the operator is not installed
- The guard used to protect the operator is not active
- Flaws in the brake press design and safety
- Losing balance and using the ram as a hand support
- Not using an Electro-Pneumatic Foot Switch

A combination of some of these factors can result into a person having his fingers crushed by the press machine.

Analysis of the accident:

In examining the press brake machine during my visit at the Newco plant, I discovered how easy it is to move the treadle bar downward. It required almost no resistance for up to four inches of travel. This design control mechanism resulted in an operator not seeing any movement or motion to the ram after displacing the treadle bar for over four inches. After which the required force to activate it was still manageable with little resistance. This

force control was very deceiving for a conscientious operator who wants to have complete confidence on how to operate the treadle bar. It was apparent to me that the treadle bar covered the full base of the press brake machine and could be activitated from any position of the machine. Essentially, there was not a space or void between the machine and the operator where one can stand without coming in contact with the treadle bar. At the time of my visit the part of the treadle bar was covered with a cloth or tape to provide no slippage during the push operation on the bar. It looked to me as an add-on type of cover and didn't originate from the manufacturer.

Mr. Shaffer demonstrated to me, how the brake press operates. He stood with one foot on the ground and the other on the treadle bar. The right foot that barely was in contact with the straddle bar was maintained in space when the ram was not activated. I was able to observe the operator on the same machine earlier performing the same task. It became apparent to me that the operator is standing on one foot while having the other foot on and off the treadle bar. Given the fact that there is no resistance on the treadle bar for over four inches, there exists a strong possibility for anyone not trained on posture and stability to lose balance. Any distraction such as turning around to answer a question or reach for a tool would initiate an instability causing the person to try to regain posture and stability. The latter is achieved by grabbing into something while trying to readjust the body to regain the equilibrium position.

A rigorous training will be needed to avoid catastrophic accident. To my knowledge, there are no Press brakes currently operational nationwide without a foot electric switch. The electric/pneumatic foot switch allows the operator to have his/her foot on the ground at all times, providing the support and balance needed at the job. The foot switch is a mechanism by which the pressure force is better controlled. The foot switch also provides a safety buffer by allowing the operator to stand away from the press machine.

Brake presses are powerful equipment machines used to bend and gauge heavy materials. They exert an enormous force to cause the metal to conform to certain bending in a fraction of a second. They are usually operated manually and are very common in industry. According to the US Department of labor and The Occupational Safety and Health Administration, "It is unconscionable for workers to be losing their fingers and suffering other disabling injuries simply because mechanical power presses are not properly guarded or maintained." Injuries are preventable if employers insure that guards are installed and maintained on presses to protect workers against the punching action.

To prevent finger from entering the red zone or simply for the hand to be caught between the ram and the die, the following measures could be taken:

- Provide a mechanism that prevents access to any dangerous parts by hand
- Provision of an interlocking system that is activated while repairs are being performed
- Provision of sensors to detect and differentiate between parts and hand or fingers
- Provide a sequential mode of operation where the machine moves in steps allowing time for the operator to stay away from the danger zone

I have analyzed the accident from all possible angles and what might have initiated it based on the information on the press machine design, the documents presented to me, the written testimony by Mr. Shaffer, my site visit to the plant and examination of the brake press machine. I am convinced that the accident was attributed to a loss in balance during the course of Mr. Shaffer's repair of the brake press machine. Standing on his left foot while the right foot on the treadle bar he used his right hand to grab the ram to regain his posture. A loss in balance prompted his right foot to press on the treadle bar causing his fingers to be crushed.

I cannot foresee any scenario, which would cause his hand to be in between the ram and the die while he is pressing down on the treadle bar. There are no room or space on these brake press to allow for the operator to rest his hand on, nor does the machine have a mechanism in place that could prevent such accident from happening. Based on Mr. Shaffer's claims that no technical operation, assistance or training was offered on this newly designed press machine prior to the repair being initiated. Mr. Shaffer was not advised of the potential danger the treadle bar design posed or possibility of hand/finger injuries.

In my opinion, the Brake press treadle bar is dangerous and unreliable. It is haphazardly controlled, and provides a dangerous mechanism for foot support. In my opinion, the ram could be designed in such a way to support space and allow for hand support. The latter could serve as a buffer of safety preventing such accidents from happening. I certainly believe that if a foot electric/pneumatic switch had been in use Mr. Shaffer wouldn't have had his fingers crushed and would still have his hand today. Furthermore, the press brake should have built-in safety guards of a mechanical/sensory nature that would prevent such accidents from occurring. This is especially true when repairs are being performed on the machine. According to OSHA, a safety manual on how to operate the press machine should be given to the technician before beginning a repair job.

If you have any questions or have additional information, please do not hesitate to give me a call or e-mail me at my address given below.

Sincerely,

Farid Amirouche, Ph.D.
Professor of Mechanical and Bioengineering
Director Biomechanics laboratory
Director Dynamics and Vibration laboratory

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF MISSOURI
EASTERN DIVISION

DONALD SHAFFER,	)	
	)	
Plaintiff,	)	
	)	CASE NO:
vs.	)	4:01CV1767 CDP
	)	
AMADA AMERICA, INC.,	)	
	)	
Defendant.	)	

MEMORANDUM AND ORDER

In March 2001, Donald Shaffer, a service engineer for Amada Engineering and Service[1], Inc., was injured while servicing a brake machine at the Newco Company's St. Charles, Missouri plant. As Shaffer was adjusting lower ram position of the up-acting press brake, the Amada model RG5020LD, somehow his right hand came between the lower ram of the machine and the upper die. As the machine cycled upward, Shaffer's fingers were crushed. He evidentially lost multiple fingers.

Shaffer sued Amada America, Inc., the seller of the press brake, claiming that it was defectively designed. Both parties retained experts, and both parties have filed motions in

---

[1] Amada Engineering merged with defendant Amada America, Inc. in July 2001, after the accident.

limine to exclude certain testimony offered by these experts. Additionally, Amada America has moved for summary judgment. For the reasons discussed below, I will grant Amada America's motion in limine with respect to Farid Amirouche – Shaffer's only expert witness regarding defective design of the press brake – and, as a consequence, I will also grant Amada's motion for summary judgment.

I. Facts

On March 1, 2000 Donald Shaffer went to the Newco Company's plant in St. Charles, Missouri, to repair a broken control switch on one of Newco's newer machines, the Amada model RG5020LD. After Shaffer finished this task, he was asked by Newco employee Mark Herbert to fix another problem with the machine. Herbert told Shaffer that the lower ram on the press brake was slipping from its lower set point.

Shaffer went through several cycles of the machine to examine the problem, using the treadle bar (a bar located at the base of the machine which is depressed in order to start the cycling of the press brake). Mark Herbert was standing behind him looking over Shaffer's right shoulder. At some point, plaintiff was injured when his hand and several of his fingers were caught between the lower ram and the upper die.

Shaffer has made several statements, but he cannot remember exactly how the accident happened. Eyewitnesses and Amada employees to whom Shaffer recounted the

events are similarly uncertain of exactly how Shaffer's hand got between the ram and the die.

Shaffer retained Dr. Farid Amirouche as an expert witness. Dr. Amirouche is prepared to testify to the following six opinions:

1. The treadle bar of the machine is dangerous and unreliable because there is excessive "Travel" in the bar that leads to operator instability.
2. The ram should have some sort of support built into the front of it, such as a ledge or a platform that extends outward, on which plaintiff could have rested his hand.
3. A foot operated electric or pneumatic switch would have prevented the accident because it would not have excessive "travel" like the treadle bar and because it could be moved farther away from the machine.
4. Safety guards of a mechanical/sensory nature would have prevented the accident. Examples of mechanical guards would be a block or a steel rod to place in the machine while it is being serviced to prevent the ram and die from closing. Examples of sensory guards would be a "light curtain" or a force-field that would detect the presence of a foreign object in the press and cause it to stop.

5. A safety manual should have been provided to Shaffer before the accident.[2]
6. Plaintiff's accident must have happened because he lost his balance with his foot on the treadle bar and then placed his hand on the lower ram in order to steady himself.

Dr. Amirouche has a Ph.D. in Mechanical Engineering and has for approximately twenty years taught courses such as Mechanical Engineering, Design, and Biomechanics at the University of Illinois at Chicago. He has written a recently-updated book called Principles of Computer-Aided Design and Manufacturing, but he admits that the pertinent chapters of his book focus more on computer-automated press brakes, rather than on operator-run brakes, such as the RG5020LD.

Dr. Amirouche has limited experience with press brakes. He operated a press brake perhaps four or five times during the course of his undergraduate engineering studies in 1977. Also while in school, in 1979, he saw a press brake being operated. He has never conducted any research on press brakes or guards for press brakes independent of this litigation. At a conference for the National Institute of Health and Safety in 1999, Amirouche participated in a

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[2] Plaintiff has never pleaded a failure to warn theory. As a result, I will not address this opinion of Dr. Amirouche. Additionally, the evidence indicates that a manual was attached to the machine, but the expert was not aware of that when he wrote his report.

committee meeting that spent about 45 minutes discussing press brakes over the course of the two-day conference. Dr. Amirouche has not published any articles regarding press brakes.

II. Defendant's Motion in Limine Dr. Amirouche

Shaffer has proffered the testimony of Dr. Amirouche, to prove the defectiveness of the press brake. Amada has moved to exclude all expert testimony offered by Dr. Amirouche under Rule 702 and the requirements of Daubert v. Merrill Dow Pharm., Inc., 509 U.S. 579 (1993). Rule 702 provides:

If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise, if (1) the testimony is based on sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case.

Fed.R.Evid.702.

Under Daubert, the Court must determine whether the reasoning and methodology underlying the proposed expert's testimony is valid. Peitzmeier v. Hennessey Indus., Inc., 97F.3d 293, 297 (8th Cir. 1996). In making this inquiry, Daubert offers four non-exclusive factors: (1) whether the concept has been

tested, (2) whether the concept has been subject to peer review, (3) what the known rate of error is, and (4) whether the concept is generally accepted by the community. Daubert, 509 U.S. at 593-95.

Dr. Amirouche fails the Rule 702 and Daubert requirements for admissibility of expert testimony. First, Dr. Amirouche's testimony is unreliable. It is not based on sufficient facts and data. Dr. Amirouche has virtually no experience with press brakes, other than his participation in a forty-minute discussion of press brakes during a two-day conference, and the limited experience he had during his undergraduate studies approximately 25 years ago. Although he reviewed some information about press brakes on the internet, none of that information provided a basis for his opinions.

Second, Dr. Amirouche has not designed or tested the devices he claims would have prevented Mr. Shaffer's accident. He has not even sketched any of these possible alternative designs. He has no knowledge as to whether any of his proposals would work or would interfere with the normal operation of the press brake. Similarly, Amirouche offers no quantifiable evidence to support his theory that excessive "travel" in the treadle bar caused the accident. He has simple made on-site measurements that he recorded in a one-page hand written note, purporting to show the "travel" but not trying that "travel" to any cause of the accident.

Third, there has been no peer review of Dr. Amirouche's theories of alternative design. Because there has been no testing of the

alternative designs, we also do not know the potential rate of error. Finally, there is no evidence of the general acceptance of Amirouche's abstract theory that his laundry list of devices would have prevented the accident.

Shaffer claims Dr. Amirouche is similar to the expert who was admitted in Lauzon v. Senco Prods., 270 F.3d 681 (8th Cir. 2001), which involved an allegedly defective nail gun. In Lauzon, the expert conducted various scientific tests in arriving at his opinion that the nail gun was defective – he measured the trigger force of the gun and the nail speed from various distances, conducted a pendulum test to measure recoil forces, and recreated the roof where the accident occurred. Id. At 688-89. Moreover, the plaintiff's proffered expert published an article about the allegedly defective nail gun in the Journal of the National Academy of Forensic Engineers. Id. At 690. He also consulted two specific articles regarding nail gun injuries and the alternative design he was advocating.

Dr. Amirouche stands in stark contrast to the controverted expert in Lauzon. The extent of his examination of the actual machine, as well as the information gathered from Newco employees regarding the normal operation of the press brake during his only visit to the Newco plant, covered only one handwritten page of notes. It is estimated that this visit to the Newco plant took only ninety minutes.

Amirouche lacks even a comprehensive understanding of how the press brake at issue works. For instance, Amirouche does not know where the press brake's "on/off" switch is

located. He does not know what mechanism is actuated by use of the treadle bar – which he claims is defectively designed and unreasonable dangerous. Amirouche Depo. At 246 (I did not really look at that machine in particular, finding out whether it's a gear system or hydraulic system, electrical system, motor of some sort that actually keep – you know, moves it, you know."). Dr. Amirouche admits that the only literature he consulted specific to the press brake at issue in this case was the operator's manual and the parts list. He did not test his theories to see whether the general safety measures he proposes would actually work on the RG5020LD without altering the purpose for which the machine is used (bending coffee pot component parts). Moreover, unlike the Lauzon expert, Dr. Amirouche made no attempt to either quantify his findings of excessive "travel" in the treadle bar, like measuring the force required to activate the machine. Nor has he subjected his "research" – which was almost exclusively documents he gathered from the Internet solely for the purpose of this litigation – and assorted theories of alternative design to peer review. The fact that Dr. Amirouche is a professor and an engineer does not grant him license to label as "scientific" unsubstantiated or overly broad opinions.

Despite Shaffer's protestations, Dr. Amirouche is similar to the experts in several cases that were mentioned in Lauzon. For instance, in Jarequi v. Carter Manuf. Co., Inc., 173 F.3d 1076, 1080 (8th Cir. 1999), the Eighth Circuit affirmed the exclusion of the plaintiff's proffered expert who attempted to testify that the

corn head on a combine was defective because it lacked "awareness barriers" that warned of the hazard zone where the gathering chains of the combine emerged from the snout of the machine. The expert did not study the feasibility of this idea, much less design or test it. Id. He was unaware of any study regarding the effectiveness of such a barrier or of any manufacturer incorporating such an idea into a finished product. Id. As with Dr. Amirouche's proposals, the Jarequi expert did not "construct or ever draw the suggested device, much less test its utility as a safety device or its compatibility with the corn head's proper function." Id. At 1084. (8th Cir. 1996), the district court excluded the proffered testimony of an expert who wished to testify that a tire changing machine was unreasonably dangerous. The proposed expert opined that the tire changing machine acted as a "launch pad" for an overinflated tire, an effect that he said could be reduced with several changes he proposed. Id. However, like Dr. Amirouche, the expert had neither designed nor tested the proposed design for safety or utility although (unlike Dr. Amirouche) he had drawn some rough sketches. Id. These sketched were not adapted into engineering drawings, much less actual prototypes. Id. Again, similar to Dr. Amirouche's proposed changes, none of the Peitzmeier expert's proposed changes were subject to peer review. Id. The Eighth Circuit affirmed the district court's decision to exclude the expert's testimony. Id. At 298. See also Dancy v. Hyster Co., 127F.3d 649 (8th Cir. 1999) (Affirming exclusion of expert testimony that forklift used by

defendant should have a guard where expert had not tested his theory or designed the alternative guard).

Because I find that the proposed testimony of Dr. Farid Amirouche does not satisfy the requirements of Rule 702 and cannot survive a Daubert challenge, I will grant Amada' motion in limine and exclude his testimony.

III. Summary Judgment Motion

In determining whether summary judgment should issue, the Court views the facts and inferences from the facts in the light most favorable to the nonmoving party. Matsushita Elec. Indus. Co., Ltd. V. Zenith Radio Corp., 475 U.S. 574, 587 (1986). The moving party has the burden to establish both the absence of a genuine issue of material fact and that it is entitled to judgment as a matter of law. Fed.R.Civ.P.56©; Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 247 (1986); Celotex Corp. v. Catrett, 477 U.S. 317, 322 (1986). Once the moving party has met this burden, the nonmoving party may not rest on the allegations in its pleadings but by affidavit or other evidence must set forth specific facts showing that a genuine issue of material facts exist. Fed.R.Civ.P.56(e). "[A] complete failure of proof concerning an essential element of the nonmoving party's case necessarily renders all other facts immaterial." Celotex, 477 U.S. at 323.

Missouri law requires Shaffer to prove the following elements: (1) Amada America sold the press brake in the course of its business; (2) the press brake was in a defective condition that

made it unreasonably dangerous when put to a reasonably anticipated use; (3) the press brake was used in a manner reasonably anticipated; and (4) Shaffer was damaged by the defective condition that existed when the product was sold. Rauscher v. General Motors, 905S.W.2d 158, 160 (Mo. Ct. App. 1995). Amada America has shown that the record is devoid of any admissible evidence as to the second element – that the press brake was in a defective condition that made it unreasonably dangerous to operate. Because of this complete failure of proof of an essential element, Amada is entitled to judgment as a matter of law.

Plaintiff has filed depositions of Amada Engineering employees James Donald Rush, John Porco, and Themis Alexopoulos. These additional filings do not establish the defectiveness or unreasonable dangerousness of the RG5020LD press brake that Mr. Shaffer was repairing the day he was injured. The Alexopoulos and Rush depositions do establish that Amada offered some extra guarding devices at the time the RG5020LD was sold to Newco, but it does not follow from this evidence that the RG5020LD is defective without these devices or that they would have prevented the accident that occurred here.

The law is not so rigid as to require a manufacturer to sell only those products equipped with every available safety device. Linegar v. Armour of America, Inc., 909 F2d 1150, 1154 (8th Cir. 1990). And the absence of an available safety feature does not, by itself, mean a product is defective. Missouri law, instead, "demands that we focus our efforts on

defects that are unreasonably dangerous." Sandage v. Bankhead Enterp., Inc., 177 F.3d 670, 673 (8th Cir. 1999).

This is not a case like Patterson v. Foster Forbes Glass Co., 674 S.W.2d 599 (Mo. Ct. App. 1984), where the circumstantial evidence presented would allow a jury to find defect without expert testimony. In Patterson, a baby bottle exploded, sending shards of glass that severed tendons in a mother's hand. Id. At 601. This case is not so simple.

This case involves a complex piece of industrial machinery. Because a finding of defect cannot rest on conjecture or speculation, Crump v. MacNaught P.T.Y., Ltd., 743 S.W.2d 532, 534 (Mo.Ct.App. 1987), Shaffer needs competent expert testimony to establish that this press brake is defective and unreasonably dangerous. Without expert testimony, we are left with evidence of an accident. The fact that an accident happened, standing alone, does not establish a case of product defect. Winters v. Sears, Roebuck, & Co., 554 S.W.2d 565, 571 (Mo.Ct.App. 1977).

Plaintiff's remaining expert, Dr. Miranda Savage, does not provide sufficient expert testimony regarding the allegedly defective condition of the RG5020LD press brake to save the case from summary judgment. Dr. Savage only opines that an OSHA standard was violated when Shaffer, flowing Amada Engineering's procedure, attempted to fix the press brake. But even if the OSHA regulations provide the standard of care for workers such as Mr. Shaffer, Savage's testimony is not helpful to the essential inquiry in this case – whether the product was in a

defective condition when put to a reasonably anticipated use. Savage's testimony regarding Shaffer's working conditions is therefore insufficient to overcome Amada's motion for summary judgment.

V. Conclusion

The opinions and testimony of Dr. Farid Amirouche do not meet the requirements for expert testimony, as set forth in Fed. R .Evid. 702 and Daubert. Without this testimony, there is no evidence that plaintiff can introduce that could prove that the Amada RF5020LD is defective and unreasonably dangerous, and I will therefore grant Amada's motion for summary judgment.

Accordingly,

IT IS HEREBY ORDERED that Defendant's Motion for Summary Judgment [#31-1] is granted;

IT IS FURTHER ORDERED that Defendant's Motion in Limine to Exclude the Testimony and Opinions of Dr. Farid Amirouchce [#37-1] is granted;

IT IS FURTHER ORDERED that all other pending motions are denied as moot.

A separate judgment in accord with this Memorandum and Order is entered this same date.

Dated this 6th day of January, 2004.

Catherine D. Perry
United States District Judge

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF MISSOURI
EASTERN DIVISION

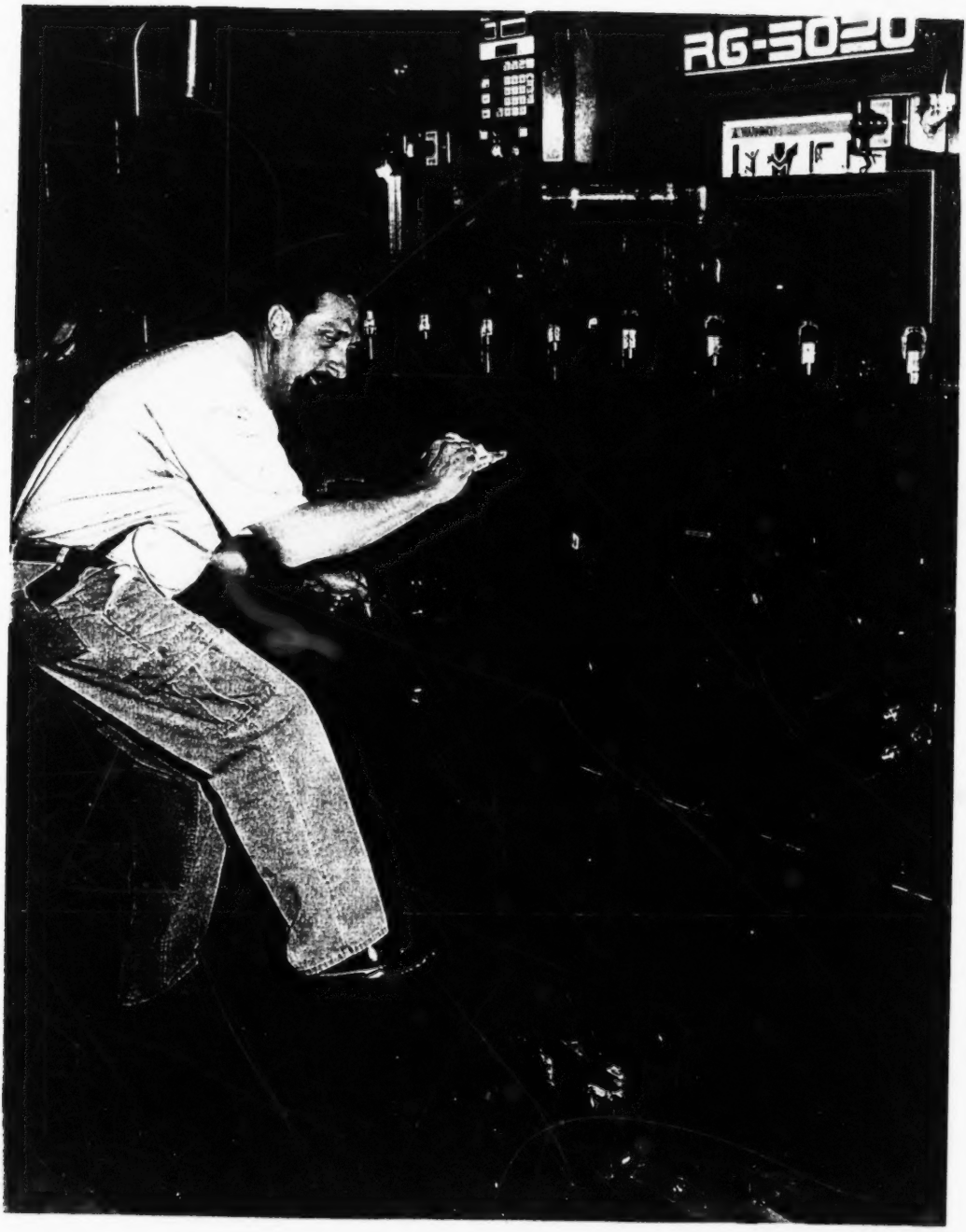
DONALD SHAFFER,	)	
	)	
Plaintiff,	)	
	)	CASE NO:
vs.	)	4:01CV1767 CDP
	)	
AMADA AMERICA, INC.,	)	
	)	
Defendant.	)	

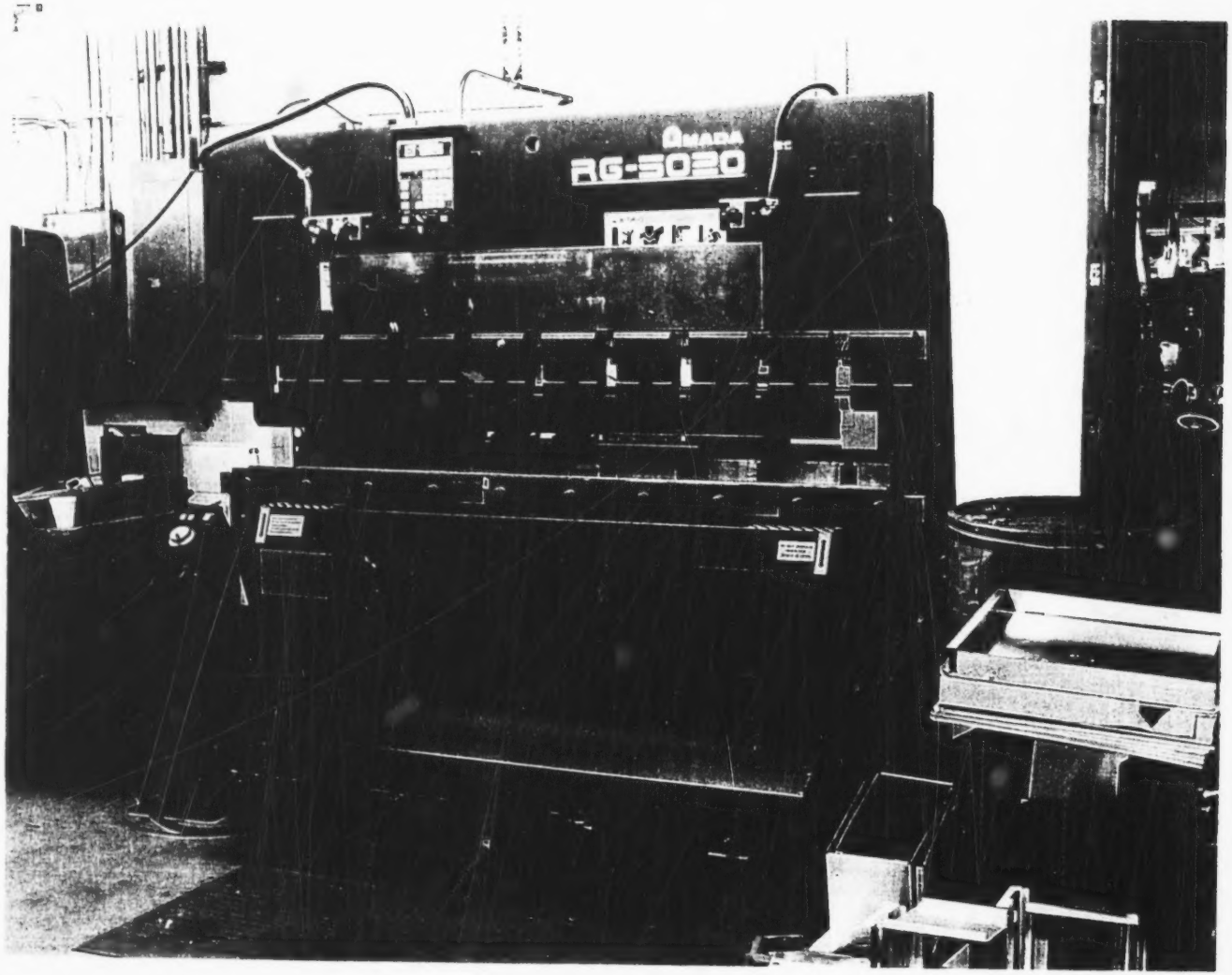
JUDGMENT

In accordance with the Memorandum and Order entered this same date, **IT IS HEREBY ORDERED, ADJUDGED and DECREED** that judgment is entered in favor of defendant, that the plaintiff take nothing, that the action be dismissed on the merits, and that defendant recover of plaintiff its costs of this action.

Dated this 6th day of January, 2004

_____
CATHERINE D. PERRY
UNITED STATES DISTRICT JUDGE


RG-5020


AMADA
RG-5020

Amada Engineering
& Service Co., Inc.

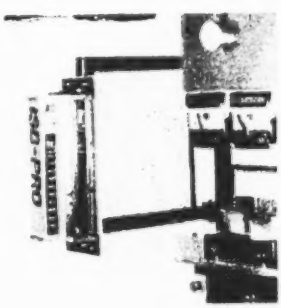
Retrofit

Press Brake Safety

Dual Palm Buttons

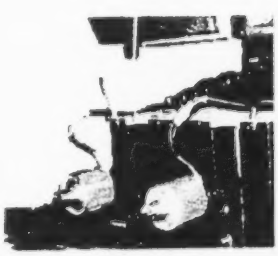
Put safety in the palm of your hand. This two-hands controlled protection system reduces accidents associated with bending operations. In addition it satisfies all OSHA requirements for point of operation guarding. AESI's Dual Palm Buttons allow full ram motion when bending any size part.

ISB Programmable Light Curtains



The ISB Programmable Beam blank-out light curtain is our unique safety solution for Amada press brake guarding. ISB light curtains provide optimum safety with minimum production interruption. The intelligent control system, not the operator, allows the workpiece profile to determine which beams are activated. Safety no longer has to come at the expense of productivity.

Electromagnetic Fingers



These electromagnets are designed to hold the work being formed in the press brake while getting the operator's hands away from the "point of operation" during the forming cycle. A new control feature permits

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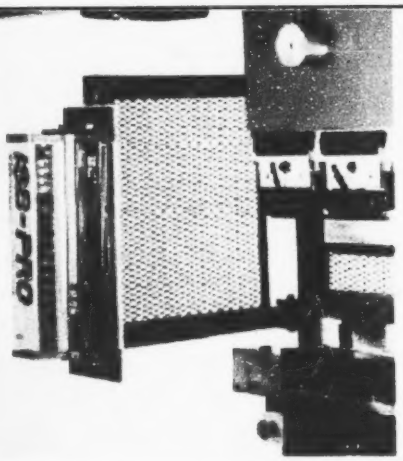
ISB Programmable Light Curtains



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